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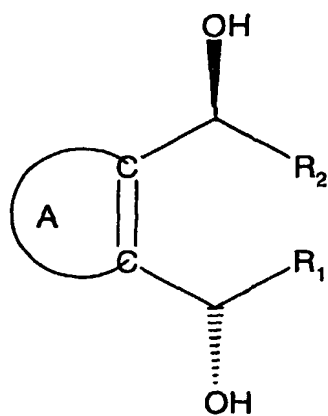
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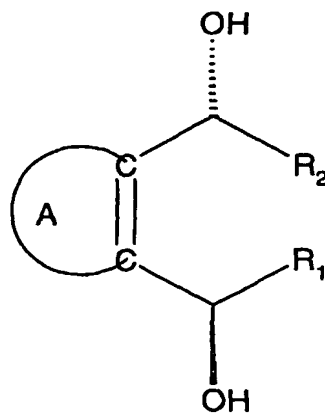
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(54) Title: NEW CHIRAL DIOLS, THEIR MANUFACTURE AND LIGANDS AND CATALYSTS DERIVED THEREFROM



(IVA)



(IVB)

(57) **Abstract:** The present invention relates to a method for the preparation of C<sub>2</sub>-symmetric 1,4-diols of the formula IVA or IVB, wherein ring A, R<sub>1</sub> and R<sub>2</sub> have the meanings given in the specification, that makes use of the metallation of pure enantiomers of α-(aryl or heteroaryl)-α-substituted alkanol compounds or the use of said alkanol compounds in the preparation of said mmetric 1,4-diols; novel C<sub>2</sub>-symmetric 1,4-diols in enantiomerically pure form; and methods of use or their use in the synthesis of chiral ligands which find use to produce catalysts for a variety of asymmetric transformations such as hydrogenations.